This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.030 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards (effective 6 January 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	Glenwood MHC, LLC 10006 Hammock Bend Chapel Hill, NC 27517	SIC Code:	4952 WWTP
	Facility Location:	9755 Glenwood Drive Fredericksburg, VA 22408	County:	Spotsylvania
	Facility Contact Name:	Matthew Raynor Environmental Director	Telephone Number:	919-960-5739
	Facility Email Address:	tarmatt@aol.com		
2.	Permit No.:	VA0068934	Expiration Date:	27 February 2016
	Other VPDES Permits:	Not Applicable		
	Other Permits:	Not Applicable		
	E2/E3/E4 Status:	Not Applicable		
3.	Owner Name:	Glenwood MHC, LLC		
	Owner Contact / Title:	Matthew Raynor Environmental Director	Telephone Number:	919-960-5739
	Owner Email Address:	tarmatt@aol.com		
4.	Application Complete Date:	13 August 2015		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	16 September 2015
	Draft Permit Reviewed By:	Anna Westernik	Date Reviewed:	17 September 2015
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	3 October 2015
	Public Comment Period:	Start Date: 3 November 2015	End Date:	2 December 2015
5.	Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination.		
	Receiving Stream Name:	Massaponax Creek, UT	Stream Code:	3-XDB
	Drainage Area at Outfall:	0.13 square miles*	River Mile:	0.80
	Stream Basin:	Rappahannock River	Subbasin:	None
	Section:	4	Stream Class:	III
	Special Standards:	None	Waterbody ID:	VAN-E20R
	7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
	1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
	30Q10 Low Flow:	0.0 MGD	30Q10 High Flow:	0.0 MGD
	Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD

*Updated based on planning statement (**Attachment 5**)

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

X	State Water Control Law	X	EPA Guidelines
X	Clean Water Act	X	Water Quality Standards
X	VPDES Permit Regulation		Other
X	EPA NPDES Regulation		

7. **Licensed Operator Requirements:** Class IV

8. **Reliability Class:** Class II

9. **Facility / Permit Characterization:**

X	Private	X	Effluent Limited		Possible Interstate Effect
	Federal	X	Water Quality Limited		Compliance Schedule
	State		Whole Effluent Toxicity Program		Interim Limits in Permit
	POTW		Pretreatment Program		Interim Limits in Other Document
X	eDMR Participant	X	Total Maximum Daily Load (TMDL)		

10. **Wastewater Sources and Treatment Description:**

Influent flows via gravity to the headworks of the sewage treatment plant. Primary treatment at the headworks consists of solids removal through a manual barscreen.

Flow then enters into an extended aeration basin equipped with diffusers for nitrification, continues on to the clarifier, passes a bar stop to catch any floating material and then flows through a V-notch weir (point of flow measurement). Disinfection occurs in the chlorination tank where a liquid solution of Sodium Hypochlorite is metered prior to the chlorine contact tank. Dechlorination is accomplished via a tablet feeder system. After dechlorination, the effluent is reaerated prior to discharge into an unnamed tributary (UT) of Massaponax Creek.

The return activated sludge (RAS) is pumped from the clarifier to the extended aeration basin. Waste activated sludge (WAS) is pumped to the digester (holding tank) as needed.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Design Flow	Latitude / Longitude
001	Domestic Wastewater	See Section 10	0.030 MGD	38° 13′ 45″ / 77° 29′ 49″
See **Attachment 3** for the Guinea topographic map.				

11. **Sludge Treatment and Disposal Methods:**

There is no treatment at this facility; storage only. Sludge is pumped from the digester/holding tank and hauled to the Massaponax Wastewater Treatment Facility (VA0025658) as needed for further treatment and final disposal.

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12. Permitted Discharges Located Within Waterbody VAN-E20R:

TABLE 2
PERMITTED DISCHARGES

Permit Number	Facility Name	Type	Receiving Stream
VA0029785	Lincoln Terminal Company	Stormwater Industrial Individual Permits	Deep Run, UT
VA0090468	Culpeper Wood Preservers – Ruffin Creek		Ruffins Pond
VAR051091	Anderson Oil Company	Stormwater Industrial General Permits	Rappahannock River, UT
VAR052019	M&M Late Model Division		Hazel Run, UT
VAR051885	Crossroad Yard Maintenance Facilities		Haislip Pond, UT
VAR051832	Summit Recycling		Hazel Run, UT
VAR051012	Virginia Paving Co. – Fredericksburg		Massaponax Creek, UT
VAR051809	Fredericksburg WWTF		Rappahannock River
VAR051621	CMC Rebar Fredericksburg		Haislip Pond, UT
VAR050865	Onduline North America Inc.		Massaponax Creek, UT
VAR051679	Superior Paving Corporation		Hazel Run
VAR051052	United Parcel Service – Fredericksburg		Deep Run, UT
VAR052056	Pick A Part South LLC		Massaponax Creek, UT
VAR050897	All Foreign Used Auto Parts Inc.		Falls Run, UT
VAR052043	MAPEI Americas		Falls Run, UT
VAR050989	Printpack Incorporated		Deep Run, UT
VAR052007	Fredericksburg Scrap Metal		Massaponax Creek, UT
VAR050991	Cellofoam North America Inco.		Deep Run
VAR052102	MAPEI Fredericksburg		Massaponax Creek, UT
VAR051918	Tru Tech Doors USA Incorporated		Massaponax Creek, UT
VAR052262	Cellofoam North America Inc.		Claiborne Run, UT
VAG110098	Virginia Concrete Plant New Post Plant	Concrete Products General Permits	Ruffin Pond, UT Ruffin Creek, UT
VAG110107	Old Castle Precast Incorporated		Massaponax Creek, UT
VAG110328	Essroc Ready Mix Corporation		Massaponax Creek, UT
VAG830474	Dixon Auto Fueling Site	Petroleum General Permit	Deep Run, UT
VAG830008	Curtis Brothers Trucking		Falls Run
VAG406524	Thompson Building Corp	Small Municipal ≤ 1,000 gpd General Permits	Massaponax Creek, UT
VAG406523	Ryalls Ashley Residence		Massaponax Creek, UT
VAG840217	Fulks Sand and Gravel Facility	Non Metallic Mineral Mining General Permits	Rappahannock River, UT Rappahannock River
VAG840228	Albion Sand and Gravel		Rappahannock River, UT
VAG840096	Martin Marietta – Carmel Church		Long Creek

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Sodium hypochlorite (liquid)	20 gallons	Stored under roof in locked shed.
Sodium bi-sulfite tablets	45 pounds	

14. Site Inspection:

Performed by DEQ-NRO Compliance Staff on 2 June 2015; refer to **Attachment 4**.

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

This facility discharges into an unnamed tributary to the Massaponax Creek that has not been monitored or assessed. The nearest DEQ station with ambient monitoring data is located within the segment of Massaponax Creek to which the unnamed tributary drains: DEQ ambient station 3-MAP007.97 is located at US Route 1, approximately 0.6 miles upstream from the confluence of the unnamed tributary and Massaponax Creek. The following is the water quality summary for this segment of Massaponax Creek, as taken from the 2012 Integrated Report:

Class III, Section 4

DEQ monitoring stations for this segment of Massaponax Creek:

- DEQ special study monitoring station 3-MAP002.61, at Route 609 (which is located within the segment of Massaponax Creek downstream from this segment, approximately 5.4 miles downstream from this facility)
- ambient water quality monitoring station 3MAP007.97, at Route 1

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Tidal Freshwater Rappahannock River TMDL.

Ambient monitoring finds a pH impairment, resulting in an impaired classification for the aquatic life use. Citizen monitoring data indicates a high probability of adverse conditions for biota, which is noted by an observed effect.

The wildlife use is considered fully supporting.

The fish consumption use was not assessed.

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b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 4
DOWNSTREAM 303(d) IMPAIRMENTS AND TMDLs

Waterbody Name	Impaired Use	Cause	TMDL Completion/Schedule	WLA	Basis for WLA
Impairment Information in the 2012 Integrated Report					
Massaponax Creek	Recreation	*E. coli*	Tidal Freshwater Rappahannock River Bacteria 5 May 2008	5.22E+10 cfu/year *E. coli*	126 cfu/100 mL *E. coli* --- 0.03 MGD
	Aquatic Life	pH	2018	---	---
Rappahannock River	Fish Consumption	PCB in Fish Tissue	2016	---	---
*Impairment Information in the Draft 2014 Integrated Report**					
Rappahannock River	Aquatic Life	Dissolved Oxygen	2026	---	---

* This downstream aquatic life impairment is listed in the 2014 Integrated Report, which is currently in draft format and is under review by EPA. It is expected that this segment of Rappahannock River will be listed for the aquatic life use in the final 2014 Integrated Report. There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

This facility discharges to an unnamed tributary to Massaponax Creek within the Chesapeake Bay watershed. The receiving stream has been identified in the Chesapeake Bay TMDL; approved by the Environmental Protection Agency (EPA) on 29 December 2010. The TMDL addresses dissolved oxygen (D.O.), chlorophyll a and submerged aquatic vegetation (SAV) impairments in the main stem Chesapeake Bay and its tributaries by establishing nonpoint source load allocations (LAs) and point source wasteload allocations (WLAs) for total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS) to meet applicable Virginia Water Quality Standards contained in 9VAC25-260-185.

Implementation of the Chesapeake Bay TDML is currently accomplished in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP); approved by EPA on 29 December 2010. The approved WIP recognizes the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia* (9VAC25-820 et seq.) as controlling the nutrient allocations for nonsignificant Chesapeake Bay dischargers. The approved WIP states that for nonsignificant municipal facilities, nutrient WLAs are to be consistent with Code of Virginia procedures, which set baseline WLAs at 2005 permitted design capacity nutrient load levels.

The TN and TP wasteload allocations for nonsignificant facilities are considered aggregate allocations; however, adherence with current agency guidance, this facility will be required to monitor TN and TP effluent concentration levels during this permit term. Data collected from all nonsignificant facilities will be utilized to verify the estimated facility nutrient loads and the subsequent aggregate wasteload allocations found in the aforementioned WIP.

The WIP also considers TSS WLAs for nonsignificant facilities to be aggregate allocations; yet, TSS limits are to be included in individual VPDES permits in conformance with the technology-based requirements found in the Clean Water Act. Furthermore, the WIP recognizes that as long as the aggregated TSS permitted loads for all dischargers is less than the aggregated TSS load in the WIP, the individual permit will be consistent with the TMDL. This individual permit includes TSS limits of 30 mg/L; therefore, this facility is in conformance with technology-based requirements and, in turn, consistent with the Chesapeake Bay TMDL.

Moreover, this individual permit includes limits for ammonia, biochemical oxygen demand-5 day and dissolved oxygen (D.O.) which provide protection of instream D.O. concentrations of at least 6.0 mg/L. As such, the proposed effluent limits for these parameters are consistent with the Chesapeake Bay TMDL and will not cause an impairment or observed violation of the standards for D.O., chlorophyll a or SAV as required by 9VAC25-260-185.

The planning statement is found in **Attachment 5**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, unnamed tributary to Massaponax Creek, is located within Section 4 of the Rappahannock River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

The Freshwater Water Quality / Wasteload Allocation Analysis located in **Attachment 6** details other water quality criteria applicable to the receiving stream. Please note that some Water Quality Criteria are dependent on the pH, temperature and total hardness of the receiving stream and/or final effluent. These values were utilized during the criterion determination that follows:

pH and Temperature for Ammonia Criteria

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream pH and temperature. Since the effluent may have an impact on the instream values, the pH and temperature values of the effluent must also be considered when determining the ammonia criteria for the receiving stream. The 90th percentile pH and temperature values are utilized because they best represent the critical conditions of the receiving stream.

The critical 30Q10 and 1Q10 flows of the receiving stream have been determined to be 0.0 MGD. In cases such as this, effluent pH and temperature data may be utilized to establish the ammonia water quality criteria. See **Attachment 7** for the derived 90th percentile values of all Discharge Monitoring Report (DMR) pH data for the March 2011 to July 2015 time period.

Since effluent temperature data was not readily available, staff utilized a default temperature value of 25° C and an assumed temperature value of 15° C for summer and winter, respectively.

The calculated ammonia water quality criteria may be found in **Attachment 6**.

Hardness Dependent Metals Criteria

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent total hardness values (expressed as mg/L calcium carbonate).

Since there is no hardness data for this facility or the receiving stream, staff guidance suggests utilizing a default hardness value of 50 mg/L $CaCO_3$ for streams east of the Blue Ridge.

The hardness dependent metals criteria in **Attachment 6** are based on this default value.

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Bacteria Criteria

The Virginia Water Quality Standards at 9VAC25-260-170.A. state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 mL)	126

[1]For a minimum of four weekly samples taken during any calendar month

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, an unnamed tributary to Massaponax Creek, is located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

It is staff's best professional judgement that the receiving stream be classified as Tier 1 based on the following: (1) the stream critical flows have been determined to be zero; (2) at times the stream flow may be comprised of only effluent; (3) the noted downstream impairments; and (4) the Total Maximum Daily Loads (TMDLs) associated with the receiving stream.

The proposed permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case since the critical 7Q10, 1Q10 and 30Q10 flows have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration value is greater than the chronic WLA. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and the March 2011 to July 2015 Discharge Monitoring Reports (DMRs) have been reviewed and determined to be suitable for evaluation. Please refer to **Attachment 8** for a summary of effluent data.

The following pollutants require a wasteload allocation analysis since this is a treatment plant treating domestic sewage and the method of disinfection employed at this facility: ammonia as nitrogen and chlorine.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 has been determined to have critical 7Q10, 1Q10 and 30Q10 flows of 0.0 MGD; as such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Limitations, Outfall 001 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N/TKN

Staff reevaluated the effluent pH data in order to ascertain the ammonia water quality criteria, wasteload allocations (WLAs) and subsequent ammonia limitations (**Attachment 9**). DEQ guidance suggests using a sole data point of 9.0 mg/L to ensure the evaluation adequately addresses the potential presence of ammonia in discharges containing treated domestic sewage.

It was determined that ammonia limitations of 2.5 mg/L are warranted for both the monthly and weekly averages. However, antibacksliding provisions do not allow for the relaxation of limits except in specific circumstances, as set forth in 9VAC25-31-220.L. As such, the existing monthly average limitation of 2.2 mg/L that was calculated during the 2006 reissuance will be carried forward with this reissuance. Refer to **Attachment 9** for the calculations. There have been no noted or observed impacts to the receiving stream and the effluent data has been consistently below the current limitation; further substantiating carrying the limit forward during this reissuance.

The Environmental Protection Agency (EPA) finalized new, more stringent ammonia criteria in August 2013; possibly resulting in significant reductions in ammonia effluent limitations. It is staff's best professional judgement that incorporation of these criteria into the Virginia Water Quality Standards is forthcoming. This and many other facilities may be required to comply with these new criteria during their next respective permit terms. As noted above, it is staff's best professional judgement that the previous limitation of 2.2 mg/L be carried forward with this reissuance. The ammonia criteria will be revisited during the next reissuance.

2) Total Residual Chlorine (TRC)

Chlorine is currently utilized for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows. In accordance with current DEQ guidance, staff employed a default data point of 0.2 mg/L and the calculated WLAs to derive limitations. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (see **Attachment 10**).

3) Metals/Organics

It is staff's best professional judgement that given the wastewater sources; limitations are not warranted at this time.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), biochemical oxygen demand-5 day (BOD_5), total suspended solids (TSS), ammonia and pH limitations are proposed.

The BOD_5 and TSS limitations are based on the Federal Secondary Treatment Standards of at least 85% removal.

It is staff's practice to equate the TSS limits with the BOD_5 limits since the two pollutants are closely related in terms of treatment of domestic sewage.

The maximum pH limitation of 8.0 S.U. is proposed to ensure that this discharge does not contribute to a violation of the ammonia criteria in the receiving stream or downstream of this facility. The toxicity of ammonia is dependent on the pH of the effluent and/or receiving stream. Ammonia can exist as both "ionized ammonia" (NH_4) and "un-ionized ammonia" (NH_3). Research has shown that the un-ionized ammonia is the fraction that is toxic to aquatic life while the ionized ammonia has been found to have little or no toxic effect. Furthermore, it has been demonstrated that the un-ionized fraction increases correspondingly with rising pH values; thus, increasing potential toxicity. The assumption is that the ammonia constituents that remain, within the proposed pH limitations, would not be toxic to aquatic organisms since the ionized form would be the dominate fraction present. The calculated ammonia criteria, **Attachment 6**, are based on this maximum pH value.

E. coli limitations are in accordance with the Water Quality Standards 9VAC25-260-170 and comply with the Tidal Freshwater Rappahannock River Bacteria TMDL wasteload allocation.

e. Effluent Monitoring, Outfall 001 – Nutrients

As discussed in Section 15.b. of this Fact Sheet, significant portions of the Chesapeake Bay and its tributaries are listed as impaired with nutrient enrichment cited as one of the primary causes. Nonsignificant discharges located within the Chesapeake Bay watershed are subject to aggregate wasteload allocations for total nitrogen (TN), total phosphorus (TP) and sediments under the Total Maximum Daily Load (TMDL) for the Chesapeake Bay. Monitoring for TN and TP during this permit term will be required in order to assess and verify the aggregate wasteload allocations.

f. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in Section 19. Limits were established for pH, biochemical oxygen demand-5 day (BOD_5), total suspended solids (TSS), ammonia as N, dissolved oxygen (D.O.), total residual chlorine and *E. coli*. Effluent monitoring and reporting for total Kjeldahl nitrogen, nitrate+nitrite, total nitrogen and total phosphorus are also included with this reissuance.

The limit for TSS is based on Best Professional Judgment and the Federal Secondary Treatment Standards.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD_5 and TSS (or 65% for equivalent to secondary). These regulations set forth a minimum level of effluent quality attainable by secondary treatment and the achievement of 85% removal of these pollutants. The facility conducted influent monitoring during the 2006 – 2011 permit term; indicating that the minimum removal rate was being achieved. Therefore, it is staff's best professional judgement that influent monitoring is not warranted during this permit term.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.030 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D	Estimate
pH	2,3	NA	NA	6.0 S.U.	8.0 S.U.	1/D	Grab
Biochemical Oxygen Demand (BOD_5)	1,3	30 mg/L 3.4 kg/day	45 mg/L 5.1 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	1,2,3	30 mg/L 3.4 kg/day	45 mg/L 5.1 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (D.O.)	3	NA	NA	6.0 mg/L	NA	1/D	Grab
Ammonia, as N	3	2.2 mg/L	2.2 mg/L	NA	NA	1/M	Grab
E. coli (Geometric Mean) [a.]	3,4	126 n/100 mL	NA	NA	NA	1/W	Grab
Total Residual Chlorine (after contact tank)	5	NA	NA	1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	3	0.008 mg/L	0.010 mg/L	NA	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	6,7	NL mg/L	NA	NA	NA	1/YR	Grab
Nitrate+Nitrite, as N	6,7	NL mg/L	NA	NA	NA	1/YR	Grab
Total Nitrogen [b.]	6,7	NL mg/L	NA	NA	NA	1/YR	Calculated
Total Phosphorus	6,7	NL mg/L	NA	NA	NA	1/YR	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. Tidal Freshwater Rappahannock River Bacteria TMDL
5. DEQ Disinfection Guidance
6. Chesapeake Bay TMDL/WIP
7. Guidance Memo No. 14-2011 – *Nutrient Monitoring for "Nonsignificant" Discharges to the Chesapeake Bay Watershed*

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/D = Once every day.
1/W = Once every week.
1/M = Once every month.
1/YR = Once every calendar year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15 minutes.

a. Samples shall be collected between 10:00 a.m. and 4:00 p.m.

b. Total Nitrogen = Sum of TKN plus Nitrate+Nitrite.

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20. Other Permit Requirements:

Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-790 and by the Water Quality Standards at 9VAC25-260-170. Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4 requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a PVOTW.

b. Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200.B.1 and B.2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct (CTC) prior to commencing construction and to obtain a Certificate to Operate (CTO) prior to commencing operation of the treatment works.

e. Financial Assurance. Required by Code of Virginia §62.1.-44.18:3 and the Board's Financial Assurance Regulation, 9VAC25-650 et seq. which requires owners and operators of PVOTWs with a design flow > 0.005 MGD but < 0.040 MGD and treating sewage from private residences to submit a closure plan and maintain adequate financial assurance in the event the facility ceases operations. The permitted facility is a PVOTW with a design flow of 0.030 MGD and treats sewage generated from private residences.

f. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C., and by the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.

g. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a reliability Class of II.

h. Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220.D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

i. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

j. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2, and 420 through 720 and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

k. Treatment Works Closure Plan. This condition establishes the requirement to submit a closure plan for the treatment works if the treatment facility is being replaced or is expected to close. This is necessary to ensure treatment works are properly closed so that the risk of untreated wastewater discharge, spills, leaks and exposure to raw materials is eliminated and water quality maintained. Section §62.1-44.21 requires every owner to furnish when requested plans, specification and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purpose of the State Water Control Law.

l. Total Maximum Daily Load (TMDL) Reopener. Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

22. Permit Section Part II.

Required by VPDES Regulation 9VAC25-31-190, Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- The Water Quality Criteria Reopener special condition was included with this reissuance.

b. Monitoring and Effluent Limitations:

- Nutrient monitoring and reporting on an annual frequency was included with this permit term based on current agency guidance.

c. Other:

- The Drainage Area information was updated with this reissuance based on the planning statement.
- The River mile was also updated with this reissuance based on the planning statement.

24. Variances/Alternate Limits or Conditions:

The maximum pH limitation is more stringent than the current Virginia Water Quality Standards. Please refer to Section 17.d. of this Fact Sheet for details.

(Remainder of page intentionally left blank)

25. Public Notice Information:

First Public Notice Date: 2 November 2015 Second Public Notice Date: 9 November 2015

Public Notice Information is required by 9VAC25-31-280 B: All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court; Woodbridge, VA 22193; Telephone No. 703-583-3873 Douglas.Frasier@deq.virginia.gov. See **Attachment 11** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. Additional Comments:

Previous Board Action(s):	None.
Staff Comments:	None received during this reissuance.
State/Federal Agency Comments:	Virginia Department of Health had no comments or objections regarding this permit action.
Public Comments:	No comments were received during the public notice.
Owner Comments:	Owner concurred with conditions and requirements.

Fact Sheet Attachments

Table of Contents

Glenwood MHC, LLC
VA0068934
2016 Reissuance

ATTACHMENT 1

Flow Frequency Determination

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination
Glenwood Mobile Home Park - #VA0068934

TO: Lyle Anne Collier, NRO

FROM: Paul Herman, OWRM-WQAP

DATE: September 26, 1994

COPIES: Ron Gregory, Charles Martin, Dale Phillips, Curt Wells, File

The Glenwood Mobile Home Park STP discharges to an unnamed tributary of the Massaponnax Creek near Leavells, VA. Flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The values at the discharge point were determined by inspection of the USGS Guinea and Spotsylvania Quadrangles topographical maps which shows the receiving stream as intermittent at the discharge point. The flow frequencies for intermittent streams are 0.0 cfs. The drainage area for the discharge site is 0.12 mi^2. The intermittent stream drains to a swampy reach of Massaponnax Creek. The flow frequencies for swamps are 0.0 cfs. The drainage area of Massaponnax Creek at the Interstate 95 bridge is 21.36 mi^2.

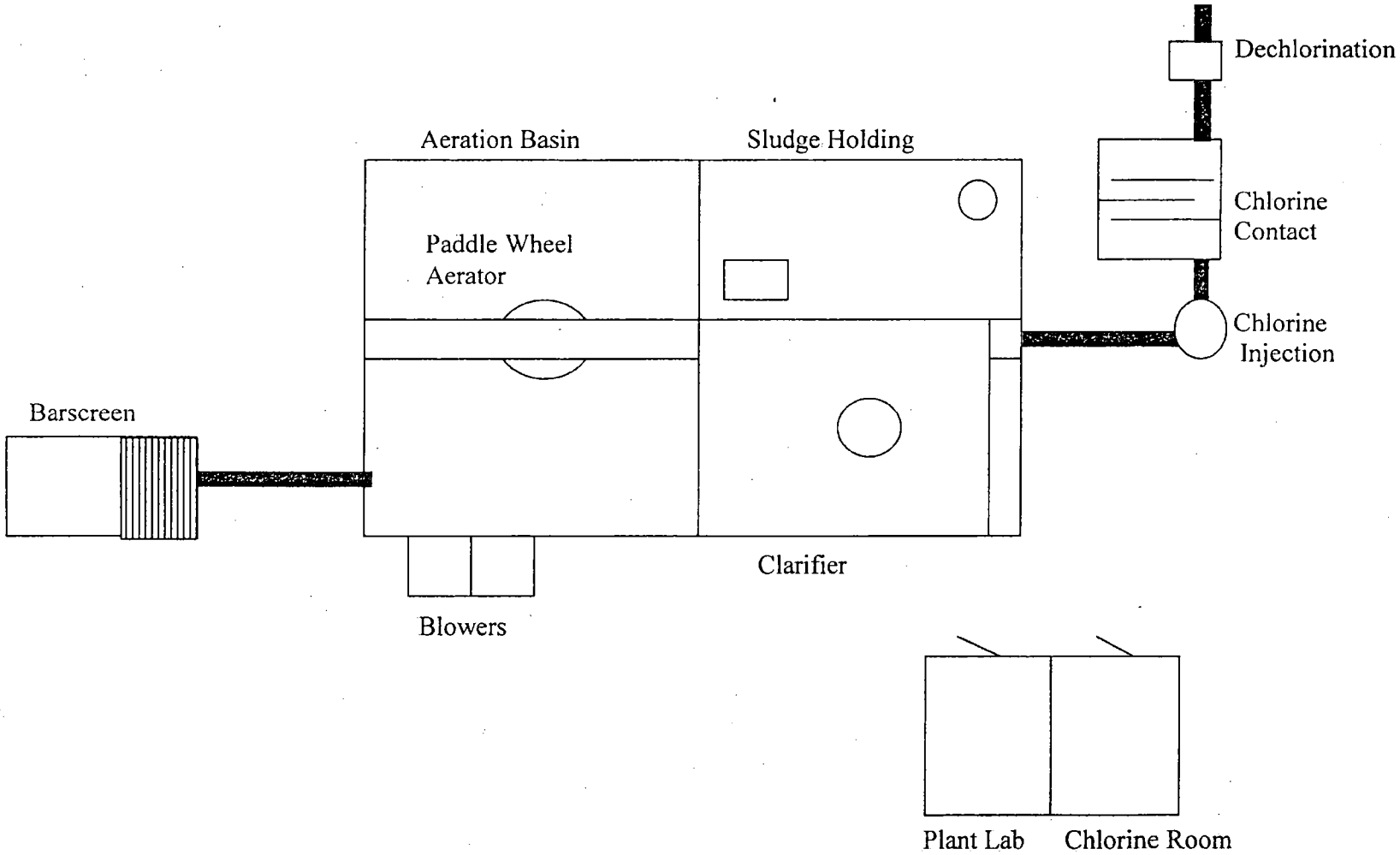
If you have any questions concerning this analysis, please let me know.

Attachment 1

ATTACHMENT 2

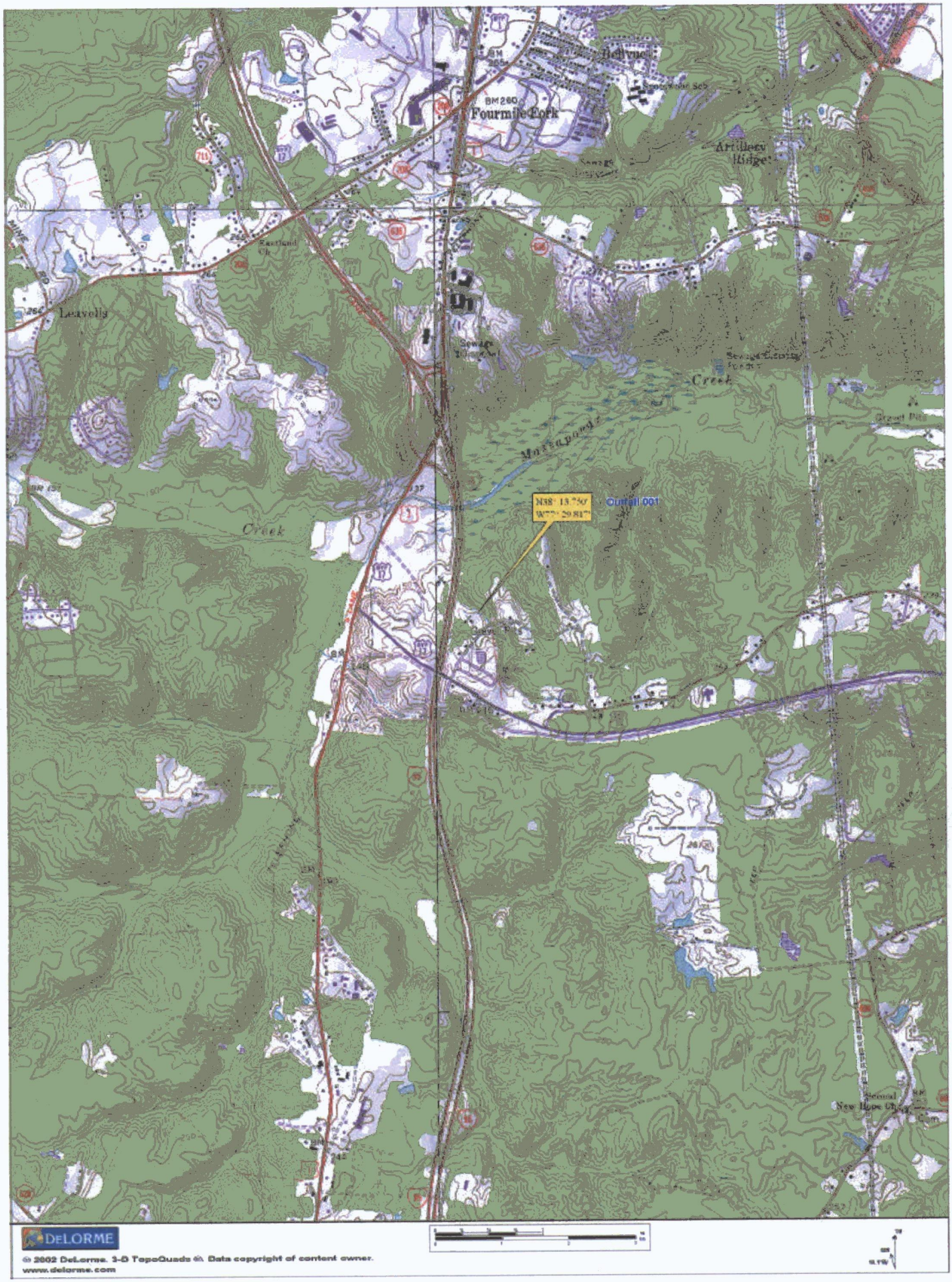
Facility Schematic/Diagram

PLANT DIAGRAM
GLENWOOD MHC L.L.C STP



ATTACHMENT 3

Topographic Map


Bellvue
BM 260
Fourmile Fork
Artillery Ridge
Leavells
Creek
Creek
Outfall 001
DeLORME
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www.delorme.com

ATTACHMENT 4

Site Inspection Report

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

June 8, 2015

Matthew Raynor
Environmental Director
Glenwood MHC, LLC
10006 Hammock Bend
Chapel Hill, NC 27517

Re: Glenwood Mobile Home Park (MHP) – Sewage Treatment Plant (STP), Permit: VA0068934

Dear Mr. Raynor:

Attached is a copy of the Inspection Report generated from the Recon Inspection conducted at the Glenwood Mobile Home Park STP on June 2, 2015. This letter is not intended as a case decision under the Virginia Administrative Process Act, VA Code §2.2-4000 *et seq.* (APA). Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at 703-583-3851 or martin.robinson@deq.virginia.gov.

Respectfully,

Martin S. Robinson, Jr.
Environmental Specialist II

Electronic copy sent:
Permits/DMR File, Compliance Manager, Compliance Auditor – DEQ

Virginia Department of Environmental Quality

RECON INSPECTION REPORT

FACILITY NAME: Glenwood Mobile Home Park STP		**INSPECTION DATE:**	6/2/2015
		INSPECTOR:	Martin S. Robinson
PERMIT No.: VA0068934		**REPORT DATE:**	6/8/2015
TYPE OF FACILITY: ☐ Municipal ☐ Major ☐ Industrial ☐ Minor ☐ Federal ☑ Small Minor ☐ HP ☐ LP		**TIME OF INSPECTION:**	Arrival 0936 / Departure 1000
		TOTAL TIME SPENT	3hrs.
PHOTOGRAPHS: ☑ Yes ☐ No		**UNANNOUNCED INSPECTION?** ☑ Yes ☐ No	
REVIEWED BY / Date: Earl L. Stall 6/8/15			

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

Mr. Martin Robinson arrived at Glenwood Mobile Home Park Sewage Treatment Plant (STP) at 0936.

Weather conditions were cloudy in the mid to upper 60's.

The gate to the fence that surrounds the STP was unlocked but there was no one from the operations staff on-site.

The purpose of the visit was to check on plant operations and observe the outfall.

No problems were observed at the bar screen.

Aeration Basin – the blowers were on and the air was mixed into the basin. The RAS pumps were removing the solids from the clarifier and sending the solids back to the aeration basin.

No problems were observed with the Clarifier, Chlorine Contact Tank, De-chlorination Unit and Outfall

Departed at 1000

VA DEQ Recon Inspection Report

Permit #	VA0068934

EFFLUENT FIELD DATA:

Flow ____ MGD	**Dissolved Oxygen** ____ mg/L	**TRC (Contact Tank)** ____ mg/L
pH ____ S.U.	**Temperature** ____ °C	**TRC (Final Effluent)** ____ mg/L

Was a Sampling Inspection conducted? ☐ Yes (see Sampling Inspection Report) ☑ No

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall: ☑ Shore based ☐ Submerged Diffuser? ☐ Yes ☑ No
2. Are the outfall and supporting structures in good condition? ☑ Yes ☐ No
3. Final Effluent (evidence of following problems): ☐ Sludge bar ☐ Grease
   ☐ Turbid effluent ☐ Visible foam ☐ Unusual color ☐ Oil sheen
4. Is there a visible effluent plume in the receiving stream? ☐ Yes ☑ No
5. Receiving stream: ☑ No observed problems ☐ Indication of problems (explain below)

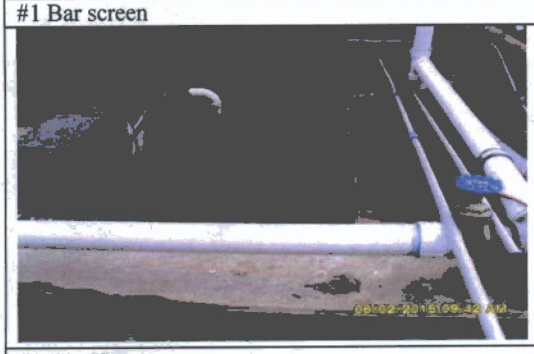
Comments:

The facility was discharging and the outfall and receiving stream appeared to be in good condition. No problems were observed.

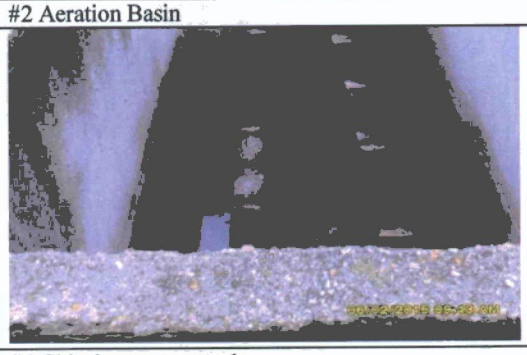
VA DEQ Recon Inspection Report

#1 Bar screen

#2 Aeration Basin



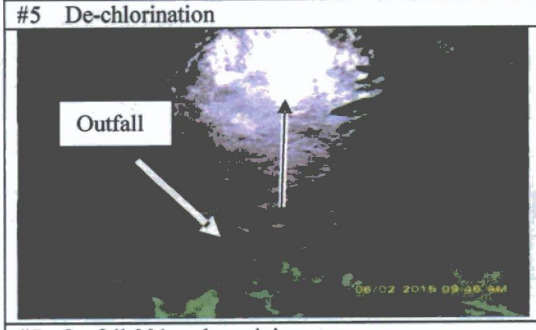
#3 Clarifier – scum pump



#4 Chlorine contact tank

#5 De-chlorination

#6 Post air steps to outfall



#7 Outfall 001 and receiving stream

#8 Glenwood MHP STP gate entrance

06/02/2015

Photos and layout by Martin Robinson

ATTACHMENT 5

Planning Statement

To:	Douglas Frasier
From:	Rebecca Shoemaker
Date:	14 September 2015
Subject:	Planning Statement for Glenwood Mobile Home Park
Permit Number:	VA0068934

Information for Outfall 001:

Discharge Type:	municipal, minor
Discharge Flow:	0.03 MGD design
Receiving Stream:	Massaponax Creek, UT
Latitude / Longitude:	38° 13' 45" / 77° 29' 49"
Rivermile:	0.80
Streamcode:	3-XDB
Waterbody:	VAN-E20R
Water Quality Standards:	Class III, Section 4, no special standards
Drainage Area:	0.13

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

   This facility discharges into an unnamed tributary to the Massaponax Creek that has not been monitored or assessed and is designated by the streamcode XDB. The nearest DEQ station with ambient monitoring data is located within the segment of Massaponax Creek to which unnamed tributary XDB drains: DEQ ambient station 3-MAP007.97 is located at US Route 1, approximately 0.6 mile upstream from the confluence of unnamed tributary XDB with Massaponax Creek. The following is the water quality summary for this segment of Massaponax Creek, as taken from the 2012 Integrated Report:

   Class III, Section 4.

   DEQ monitoring stations for this segment of Massaponax Creek:
   - *DEQ special study monitoring station 3-MAP002.61, at Route 609 (which is located within the segment of Massaponax Creek downstream from this segment, approximately 5.4 miles downstream from this facility)*
   - *ambient water quality monitoring station 3MAP007.97, at Route 1*

   E. coli monitoring find a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Tidal Freshwater Rappahannock River TMDL.

   Ambient monitoring finds a pH impairment, resulting in an impaired classification for the aquatic life use. Citizen monitoring data indicates a high probability of adverse conditions for biota, which is noted by an observed effect. The wildlife use is considered fully supporting. The fish consumption use was not assessed.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

   No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the 2012 Integrated Report							
Massaponax Creek	Recreation	*E. coli*	0.80 miles	Tidal Freshwater Rappahannock River Bacteria 05/05/2008	5.22E+10 cfu/year E. coli	126 cfu/100 ml *E. coli* --- 0.03 MGD	---
	Aquatic Life	pH		No	---	---	2018
Rappahannock River	Fish Consumption	PCB in Fish Tissue	8 miles	No	---	---	2016
Impairment Information in the Draft 2014 Integrated Report*							
Rappahannock River	Aquatic Life	Dissolved Oxygen	8 miles	---	---	---	2026

* This downstream aquatic life impairment is listed in the 2014 Integrated Report, which is currently in draft format and is under review by EPA. It is expected that this segment of Rappahannock River will be listed for the aquatic life use in the final 2014 Integrated Report. There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

The tidal Rappahannock River, which is located approximately eight miles downstream from this facility, is listed with a PCB impairment. In support for the PCB TMDL that is scheduled for development by 2016 for the tidal Rappahannock River, this facility is a candidate for low-level PCB monitoring, based upon its designation as a minor municipal discharger. Low-level PCB analysis uses EPA Method 1668, which is capable of detecting low-level concentrations for all 209 PCB congeners. DEQ staff has concluded that low-level PCB monitoring is not warranted for this facility as this facility is not expected to be a source of or discharge PCBs. Based upon this information, this facility will not be requested to monitor for low-level PCBs.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no public water supply intakes located within five miles of this discharge.

ATTACHMENT 6

Water Quality Criteria / Wasteload Allocation Analysis

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Glenwood MHC, LLC Permit No.: VA0068934

Receiving Stream: Massaponax Creek, UT Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	50 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	8 SU
10% Maximum pH =	SU	30Q10 (Wet season)	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	7 SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.03 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile [C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.24E+00	na	--	8.41E+00	1.24E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	1.24E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.36E+00	na	--	8.41E+00	2.36E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	2.36E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine [C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	**2.1E+03**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	**1.4E+02**
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	**5.3E+03**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	**1.0E-02**	na	**--**
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	na	**7.9E-04**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	na	**3.9E-04**
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	**2.9E-03**
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	**1.8E+02**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	**4.9E-02**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	**1.7E-01**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	**9.5E-01**	--	na	**1.8E+00**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	**1.1E+03**
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	**3.3E+01**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	**2.0E+00**	na	**--**
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	**9.6E+03**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	**--**
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	**4.9E+01**	**5.6E+00**	na	**--**
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	**1.0E-01**	na	**--**
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	**1.4E+00**	**7.7E-01**	--	**--**
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	**1.5E+03**
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	**5.9E+03**
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	**3.0E-02**	na	**--**
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	**--**
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	**1.0E+02**	**1.1E+01**	na	**4.6E+03**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	**6.9E+02**
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	**3.0E+01**
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	**6.0E+01**
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	**5.1E+00**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	**2.8E+01**	**6.6E+00**	na	**--**
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	**6.5E-02**	**1.3E-02**	na	**--**
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	**1.4E-02**	na	**6.4E-04**
Pentachlorophenol [C]	0	8.7E+00	6.7E+00	na	3.0E+01	8.7E+00	6.7E+00	na	3.0E+01	--	--	--	--	--	--	--	--	**8.7E+00**	**6.7E+00**	na	**3.0E+01**
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	**8.6E+05**
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	**4.0E+03**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	**4.0E+00**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	**1.0E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**6.5E+01**	**6.6E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

ATTACHMENT 7

Effluent pH Data
March 2011 to July 2015

DMR QA/QC

Permit #:VA0068934

Facility:Glenwood Mobile Home Park

Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
12-Apr-2011	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.9	8.0
10-May-2011	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.9	8.0
13-Jun-2011	pH	NULL	**********	NULL	**********	6.9	6	NULL	**********	7.8	8.0
11-Jul-2011	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.9	8.0
10-Aug-2011	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.8	8.0
10-Sep-2011	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	8.2	8.0
09-Oct-2011	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.7	8.0
10-Nov-2011	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	8.3	8.0
10-Dec-2011	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.9	8.0
10-Jan-2012	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.8	8.0
10-Feb-2012	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.9	8.0
10-Mar-2012	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.9	8.0
10-Apr-2012	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.8	8.0
10-May-2012	pH	NULL	**********	NULL	**********	7.4	6	NULL	**********	7.8	8.0
09-Jun-2012	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.9	8.0
10-Jul-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.7	8.0
10-Aug-2012	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.7	8.0
10-Sep-2012	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.6	8.0
10-Oct-2012	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.6	8.0
10-Nov-2012	pH	NULL	**********	NULL	**********	7	6	NULL	**********	7.8	8.0
10-Dec-2012	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.7	8.0
09-Jan-2013	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.6	8.0
11-Feb-2013	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.6	8.0
10-Mar-2013	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.6	8.0
10-Apr-2013	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.6	8.0
09-May-2013	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.6	8.0
10-Jun-2013	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.6	8.0
10-Jul-2013	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.5	8.0
12-Aug-2013	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	7.6	8.0
10-Sep-2013	pH	NULL	**********	NULL	**********	7.29	6	NULL	**********	7.9	8.0
10-Oct-2013	pH	NULL	**********	NULL	**********	7.33	6	NULL	**********	8.12	8.0
10-Nov-2013	pH	NULL	**********	NULL	**********	7.4	6	NULL	**********	8.02	8.0
10-Dec-2013	pH	NULL	**********	NULL	**********	6.6	6	NULL	**********	8.91	8.0
12-Jan-2014	pH	NULL	**********	NULL	**********	6.78	6	NULL	**********	8.29	8.0
10-Feb-2014	pH	NULL	**********	NULL	**********	7	6	NULL	**********	8.37	8.0
18-Mar-2014	pH	NULL	**********	NULL	**********	7.02	6	NULL	**********	8.67	8.0
10-Apr-2014	pH	NULL	**********	NULL	**********	7.6	6	NULL	**********	8.69	8.0

19-May-2014	pH	NULL	**********	NULL	**********	7.69	6	NULL	**********	8.26	8.0
10-Jun-2014	pH	NULL	**********	NULL	**********	7.36	6	NULL	**********	7.96	8.0
10-Jul-2014	pH	NULL	**********	NULL	**********	7.6	6	NULL	**********	7.98	8.0
10-Aug-2014	pH	NULL	**********	NULL	**********	7.8	6	NULL	**********	8	8.0
10-Sep-2014	pH	NULL	**********	NULL	**********	7.5	6	NULL	**********	8	8.0
10-Oct-2014	pH	NULL	**********	NULL	**********	7.2	6	NULL	**********	7.9	8.0
09-Nov-2014	pH	NULL	**********	NULL	**********	7.8	6	NULL	**********	8	8.0
10-Dec-2014	pH	NULL	**********	NULL	**********	7.3	6	NULL	**********	8	8.0
12-Jan-2015	pH	NULL	**********	NULL	**********	7	6	NULL	**********	8	8.0
13-Feb-2015	pH	NULL	**********	NULL	**********	7.1	6	NULL	**********	7.9	8.0
09-Mar-2015	pH	NULL	**********	NULL	**********	7.7	6	NULL	**********	8	8.0
09-Apr-2015	pH	NULL	**********	NULL	**********	7.5	6	NULL	**********	7.9	8.0
08-May-2015	pH	NULL	**********	NULL	**********	6.3	6	NULL	**********	8	8.0
11-Jun-2015	pH	NULL	**********	NULL	**********	7	6	NULL	**********	8	8.0
08-Jul-2015	pH	NULL	**********	NULL	**********	6.4	6	NULL	**********	8	8.0
07-Aug-2015	pH	NULL	**********	NULL	**********	6.8	6	NULL	**********	8	8.0

All reported pH data:

90th percentile	***8.0***
10th percentile	***7.0***

ATTACHMENT 8

Effluent Data
March 2011 to July 2015

DMR QA/QC

Permit #:VA0068934

Facility:Glenwood Mobile Home Park

Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
12-Apr-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-May-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
13-Jun-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
11-Jul-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Aug-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Sep-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
09-Oct-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Nov-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Dec-2011	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Jan-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Feb-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Mar-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
10-Apr-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-May-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
09-Jun-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
10-Jul-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Aug-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Sep-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
10-Oct-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Nov-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Dec-2012	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
09-Jan-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
11-Feb-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	1.0	2.2	1.0	2.2
10-Mar-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Apr-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.5	2.2	0.5	2.2
09-May-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
10-Jun-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Jul-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
12-Aug-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Sep-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Oct-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.2	2.2	0.2	2.2
10-Nov-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.4	2.2	0.4	2.2
10-Dec-2013	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
12-Jan-2014	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
10-Feb-2014	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	<QL	2.2	<QL	2.2
18-Mar-2014	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.1	2.2	0.1	2.2
10-Apr-2014	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	18.0	2.2	18.0	2.2
19-May-2014	AMMONIA, AS N	NULL	**********	NULL	**********	NULL	**********	0.8	2.2	0.8	2.2

10-Jun-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.1	2.2	0.1	2.2
10-Jul-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.1	2.2	0.1	2.2
10-Aug-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	<QL	2.2	<QL	2.2
10-Sep-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	<QL	2.2	<QL	2.2
10-Oct-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	<QL	2.2	<QL	2.2
09-Nov-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	<QL	2.2	<QL	2.2
10-Dec-2014	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	<QL	2.2	<QL	2.2
12-Jan-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	<QL	2.2	<QL	2.2
13-Feb-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.6	2.2	0.6	2.2
09-Mar-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.4	2.2	0.4	2.2
09-Apr-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.2	2.2	0.2	2.2
08-May-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.13	2.2	0.13	2.2
11-Jun-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.28	2.2	0.28	2.2
08-Jul-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.20	2.2	0.20	2.2
07-Aug-2015	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	*********	0.15	2.2	0.15	2.2
12-Apr-2011	BOD5	0.16	3.4	0.16	5.1	NULL	*********	4.00	30	4.00	45
10-May-2011	BOD5	0.16	3.4	0.16	5.1	NULL	*********	3.0	30	3.0	45
13-Jun-2011	BOD5	0.2	3.4	0.2	5.1	NULL	*********	6	30	6	45
11-Jul-2011	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Aug-2011	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Sep-2011	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2	30	2	45
09-Oct-2011	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Nov-2011	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Dec-2011	BOD5	0.2	3.4	0.2	5.1	NULL	*********	3.0	30	3.0	45
10-Jan-2012	BOD5	0.2	3.4	0.2	5.1	NULL	*********	4.0	30	4.0	45
10-Feb-2012	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Mar-2012	BOD5	0.1	3.4	0.1	5.1	NULL	*********	3.0	30	3.0	45
10-Apr-2012	BOD5	0.4	3.4	0.4	5.1	NULL	*********	8.0	30	8.0	45
10-May-2012	BOD5	0.2	3.4	0.2	5.1	NULL	*********	6.0	30	6.0	45
09-Jun-2012	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Jul-2012	BOD5	0.2	3.4	0.2	5.1	NULL	*********	3.0	30	3.0	45
10-Aug-2012	BOD5	0.1	3.4	0.1	5.1	NULL	*********	4.0	30	4.0	45
10-Sep-2012	BOD5	0.9	3.4	2.3	5.1	NULL	*********	16.8	30	42.0	45
10-Oct-2012	BOD5	0.3	3.4	0.3	5.1	NULL	*********	6.0	30	6.0	45
10-Nov-2012	BOD5	0.3	3.4	0.3	5.1	NULL	*********	5.0	30	5.0	45
10-Dec-2012	BOD5	0.3	3.4	0.3	5.1	NULL	*********	7.0	30	7.0	45
09-Jan-2013	BOD5	0.1	3.4	0.1	5.1	NULL	*********	3.0	30	3.0	45
11-Feb-2013	BOD5	0.2	3.4	0.2	5.1	NULL	*********	11.0	30	11.0	45
10-Mar-2013	BOD5	0.1	3.4	0.1	5.1	NULL	*********	2.0	30	2.0	45
10-Apr-2013	BOD5	0.2	3.4	0.2	5.1	NULL	*********	7.0	30	7.0	45
09-May-2013	BOD5	0.2	3.4	0.2	5.1	NULL	*********	2.0	30	2.0	45
10-Jun-2013	BOD5	0.1	3.4	0.1	5.1	NULL	*********	6.0	30	6.0	45
10-Jul-2013	BOD5	0.2	3.4	0.2	5.1	NULL	*********	6.0	30	6.0	45
12-Aug-2013	BOD5	0.2	3.4	0.2	5.1	NULL	*********	5.0	30	5.0	45

10-Sep-2013	BOD5	0.2	3.4	0.2	5.1	NULL	**********	9.0	30	9.0	45
10-Oct-2013	BOD5	0.5	3.4	0.5	5.1	NULL	**********	8.0	30	8.0	45
10-Nov-2013	BOD5	0.1	3.4	0.1	5.1	NULL	**********	5.0	30	5.0	45
10-Dec-2013	BOD5	0.1	3.4	0.1	5.1	NULL	**********	2.0	30	2.0	45
12-Jan-2014	BOD5	0.1	3.4	0.1	5.1	NULL	**********	3.0	30	3.0	45
10-Feb-2014	BOD5	0.3	3.4	0.3	5.1	NULL	**********	5.0	30	5.0	45
18-Mar-2014	BOD5	0.2	3.4	0.2	5.1	NULL	**********	2.0	30	2.0	45
10-Apr-2014	BOD5	0.9	3.4	0.9	5.1	NULL	**********	34.0	30	34.0	45
19-May-2014	BOD5	0.8	3.4	1.3	5.1	NULL	**********	20.4	30	36.0	45
10-Jun-2014	BOD5	0.1	3.4	0.1	5.1	NULL	**********	4	30	4	45
10-Jul-2014	BOD5	0.2	3.4	0.2	5.1	NULL	**********	4.5	30	5	45
10-Aug-2014	BOD5	0.6	3.4	1.1	5.1	NULL	**********	19	30	35	45
10-Sep-2014	BOD5	0.1	3.4	0.1	5.1	NULL	**********	4	30	4	45
10-Oct-2014	BOD5	0.1	3.4	0.1	5.1	NULL	**********	2	30	2	45
09-Nov-2014	BOD5	0.1	3.4	0.1	5.1	NULL	**********	3	30	3	45
10-Dec-2014	BOD5	0.5	3.4	1	5.1	NULL	**********	18	30	32	45
12-Jan-2015	BOD5	<QL	3.4	<QL	5.1	NULL	**********	<QL	30	<QL	45
13-Feb-2015	BOD5	0.11	3.4	0.11	5.1	NULL	**********	3	30	3	45
09-Mar-2015	BOD5	0.15	3.4	0.15	5.1	NULL	**********	6	30	6	45
09-Apr-2015	BOD5	<QL	3.4	<QL	5.1	NULL	**********	<QL	30	<QL	45
08-May-2015	BOD5	0.16	3.4	0.16	5.1	NULL	**********	5	30	5	45
11-Jun-2015	BOD5	0.33	3.4	0.33	5.1	NULL	**********	6	30	6	45
08-Jul-2015	BOD5	0.13	3.4	0.13	5.1	NULL	**********	4	30	4	45
07-Aug-2015	BOD5	0.15	3.4	0.15	5.1	NULL	**********	5	30	5	45
12-Apr-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-May-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
13-Jun-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
11-Jul-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Aug-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Sep-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-Oct-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Nov-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Dec-2011	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Jan-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Feb-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Mar-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Apr-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-May-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-Jun-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Jul-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Aug-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Sep-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Oct-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Nov-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010

10-Dec-2012	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-Jan-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
11-Feb-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Mar-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Apr-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-May-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Jun-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Jul-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
12-Aug-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Sep-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Oct-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Nov-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Dec-2013	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
12-Jan-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Feb-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
18-Mar-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Apr-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
19-May-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Jun-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Jul-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Aug-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Sep-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Oct-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-Nov-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
10-Dec-2014	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
12-Jan-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
13-Feb-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-Mar-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
09-Apr-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
08-May-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
11-Jun-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
08-Jul-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
07-Aug-2015	CL2, INST RES MAX	NULL	**********	NULL	**********	NULL	**********	<QL	0.008	<QL	0.010
12-Apr-2011	TSS	0.069	3.4	0.069	5.1	NULL	**********	1.7	30	1.7	45
10-May-2011	TSS	0.24	3.4	0.24	5.1	NULL	**********	4.4	30	4.4	45
13-Jun-2011	TSS	0.3	3.4	0.3	5.1	NULL	**********	9.2	30	9.2	45
11-Jul-2011	TSS	0.1	3.4	0.1	5.1	NULL	**********	2.6	30	2.6	45
10-Aug-2011	TSS	0.1	3.4	0.1	5.1	NULL	**********	1.5	30	1.5	45
10-Sep-2011	TSS	0.2	3.4	0.2	5.1	NULL	**********	4.2	30	4.2	45
09-Oct-2011	TSS	0.1	3.4	0.1	5.1	NULL	**********	1.3	30	1.3	45
10-Nov-2011	TSS	1.8	3.4	1.8	5.1	NULL	**********	27.0	30	27.0	45
10-Dec-2011	TSS	0.5	3.4	0.5	5.1	NULL	**********	8.4	30	8.4	45
10-Jan-2012	TSS	0.3	3.4	0.3	5.1	NULL	**********	7.4	30	7.4	45
10-Feb-2012	TSS	0.1	3.4	0.1	5.1	NULL	**********	2.1	30	2.1	45

10-Mar-2012	TSS	0.1	3.4	0.1	5.1	NULL	**********	1.5	30	1.5	45
10-Apr-2012	TSS	0.4	3.4	0.4	5.1	NULL	**********	7.3	30	7.3	45
10-May-2012	TSS	0.1	3.4	0.1	5.1	NULL	**********	3.8	30	3.8	45
09-Jun-2012	TSS	0.1	3.4	0.1	5.1	NULL	**********	1.7	30	1.7	45
10-Jul-2012	TSS	0.3	3.4	0.3	5.1	NULL	**********	6.0	30	6.0	45
10-Aug-2012	TSS	0.1	3.4	0.1	5.1	NULL	**********	2.1	30	2.1	45
10-Sep-2012	TSS	0.5	3.4	0.6	5.1	NULL	**********	9.5	30	11.5	45
10-Oct-2012	TSS	0.7	3.4	0.7	5.1	NULL	**********	12.0	30	12.0	45
10-Nov-2012	TSS	0.9	3.4	0.9	5.1	NULL	**********	13.1	30	13.1	45
10-Dec-2012	TSS	1.2	3.4	1.2	5.1	NULL	**********	25	30	25	45
09-Jan-2013	TSS	0.1	3.4	0.1	5.1	NULL	**********	3.2	30	3.2	45
11-Feb-2013	TSS	0.2	3.4	0.2	5.1	NULL	**********	10.1	30	10.1	45
10-Mar-2013	TSS	0.4	3.4	0.4	5.1	NULL	**********	10.2	30	10.2	45
10-Apr-2013	TSS	0.7	3.4	0.7	5.1	NULL	**********	20.6	30	20.6	45
09-May-2013	TSS	2.3	3.4	2.3	5.1	NULL	**********	28.2	30	28.2	45
10-Jun-2013	TSS	0.2	3.4	0.2	5.1	NULL	**********	10.1	30	10.1	45
10-Jul-2013	TSS	0.3	3.4	0.3	5.1	NULL	**********	10.6	30	10.6	45
12-Aug-2013	TSS	0.1	3.4	0.1	5.1	NULL	**********	3.1	30	3.1	45
10-Sep-2013	TSS	0.3	3.4	0.3	5.1	NULL	**********	18.1	30	18.1	45
10-Oct-2013	TSS	0.2	3.4	0.2	5.1	NULL	**********	2.7	30	2.7	45
10-Nov-2013	TSS	0.1	3.4	0.1	5.1	NULL	**********	2.1	30	2.1	45
10-Dec-2013	TSS	0.2	3.4	0.2	5.1	NULL	**********	5.6	30	5.6	45
12-Jan-2014	TSS	0.1	3.4	0.1	5.1	NULL	**********	6.8	30	6.8	45
10-Feb-2014	TSS	0.3	3.4	0.3	5.1	NULL	**********	6.2	30	6.2	45
18-Mar-2014	TSS	0.5	3.4	0.5	5.1	NULL	**********	6.2	30	6.2	45
10-Apr-2014	TSS	2.2	3.4	2.2	5.1	NULL	**********	86.0	30	86.0	45
19-May-2014	TSS	1.5	3.4	2.8	5.1	NULL	**********	40.5	30	78.0	45
10-Jun-2014	TSS	0.04	3.4	0.04	5.1	NULL	**********	1.6	30	1.6	45
10-Jul-2014	TSS	0.2	3.4	0.4	5.1	NULL	**********	6.1	30	10.8	45
10-Aug-2014	TSS	0.2	3.4	0.2	5.1	NULL	**********	5.3	30	5.3	45
10-Sep-2014	TSS	0.1	3.4	0.1	5.1	NULL	**********	2.8	30	2.8	45
10-Oct-2014	TSS	0.5	3.4	0.5	5.1	NULL	**********	14.3	30	14.3	45
09-Nov-2014	TSS	0.04	3.4	0.04	5.1	NULL	**********	1	30	1	45
10-Dec-2014	TSS	0.036	3.4	0.043	5.1	NULL	**********	1.2	30	1.3	45
12-Jan-2015	TSS	0.07	3.4	0.07	5.1	NULL	**********	2.1	30	2.1	45
13-Feb-2015	TSS	0.13	3.4	0.13	5.1	NULL	**********	3.5	30	3.5	45
09-Mar-2015	TSS	0.06	3.4	0.06	5.1	NULL	**********	2.5	30	2.5	45
09-Apr-2015	TSS	<QL	3.4	<QL	5.1	NULL	**********	<QL	30	<QL	45
08-May-2015	TSS	0.16	3.4	0.16	5.1	NULL	**********	4.8	30	4.8	45
11-Jun-2015	TSS	0.50	3.4	0.50	5.1	NULL	**********	9.1	30	9.1	45
08-Jul-2015	TSS	0.21	3.4	0.21	5.1	NULL	**********	6.4	30	6.4	45
07-Aug-2015	TSS	0.12	3.4	0.12	5.1	NULL	**********	4.2	30	4.2	45

ATTACHMENT 9

Ammonia Limitation Derivations
2015 and 2006

9/2/2015 10:38:30 AM

Facility = Glenwood MHC, LLC
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 8.41
WLAc = 1.24
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 2.50191091583623
Average Weekly limit = 2.50191091583623
Average Monthly LImit = 2.50191091583623

The data are:

9

EFFLUENT LIMITATION DEVELOPMENT

No ammonia data exists for this facility. For facilities such as this that are not designed to nitrify, an ammonia concentration of approximately 10 mg/l average and 25 mg/l maximum is expected. For purposes of establishing ammonia effluent limitations, staff assumed that one data value exists (10.0 mg/l). This data point results in an expected value of 10 mg/l and a 97th percentile value of 23.4 mg/l, and represents the Department's best estimate of the expected statistics for ammonia in this type of effluent. The effluent data were analyzed according to the methods described in Appendix E of the U.S. EPA Technical Support Document for Water Quality Based Toxics Control, 1991.

Analysis of the Glenwood MHP WWTP effluent data for Ammonia

The statistics for Ammonia are:

Number of values	= 1
Quantification level	= .2
Number < quantification	= 0
Expected value	= 10
Variance	= 36.00001
C.V.	= .6
97th percentile	= 24.33418
Statistics used	= Reasonable potential assumptions - Type 2 data

The WLAs for Ammonia are:

Acute WLA	= 11.95
Chronic WLA	= 1.47
Human Health WLA	= ----

The limits are based on chronic toxicity and 1 samples/month.

Maximum daily limit = 2.149985 = **2.15 mg/l**
Average monthly limit = 2.149985 = **2.15 mg/l**

Wkly avg limit = 2.149985 = 2.15 mg/l (same as Daily Max since sampling frequency is 1/M)

DATA
10

ATTACHMENT 10

Total Residual Chlorine Limitation Derivation

9/2/2015 10:39:48 AM

Facility = Glenwood MHC, LLC
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 0.019
WLAc = 0.011
Q.L. = 0.1
# samples/mo. = 28
# samples/wk. = 7

Summary of Statistics:

observations = 1
Expected Value = .2
Variance = .0144
C.V. = 0.6
97th percentile daily values = .486683
97th percentile 4 day average = .332758
97th percentile 30 day average= .241210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.60883226245855E-02
Average Weekly limit = 9.8252545713861E-03
Average Monthly LImit = 8.02152773888032E-03

The data are:

0.2

ATTACHMENT 11

Public Notice

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Spotsylvania County, Virginia.

PUBLIC COMMENT PERIOD: November 3, 2015 to December 2, 2015

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board.

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Glenwood MHC, LLC
10006 Hammock Bend, Chapel Hill, NC 27517
VA0068934

NAME AND ADDRESS OF FACILITY: Glenwood MHC, LLC
9755 Glenwood Drive, Fredericksburg, VA 22408

PROJECT DESCRIPTION: Glenwood MHC, LLC has applied for a reissuance of a permit for the private Glenwood MHC, LLC. The applicant proposes to release treated sewage wastewaters from residential areas at a rate of 0.030 million gallons per day into a water body. Sludge from the treatment process will be transported to the Massaponax Wastewater Treatment Plant (VA0025658) for further treatment and final disposal. The facility proposes to release the treated sewage in the unnamed tributary of Massaponax Creek in Spotsylvania County in the Rappahannock River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, biochemical oxygen demand-5 day, total suspended solids, ammonia as N, dissolved oxygen, chlorine and *E. coli*. The facility will also monitor and report total Kjeldahl nitrogen, nitrate+nitrite, total nitrogen and total phosphorus.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, email, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 Email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821